CompSouth Members













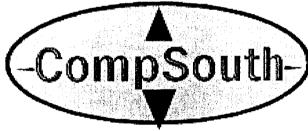






























rigg itiq itiq vera vera twc nalt

Mass Market

DS0 Analog

Enterprise Market

DS1 Digital

The Six Self-Provisioning Switch Trigger Criteria

- 1. The self-provisioning trigger candidate's switch must be "mass market," **not** "enterprise" switches.
- 2. The self provisioning trigger candidate must be actively providing voice service to mass market customers in the designated market, including residential customers, and must be likely to continue to do so.
- 3. The self-provisioning trigger candidate should provide services exhibiting a ubiquity comparable to UNE-P within the area chosen for the analysis.

The Six Self-Provisioning Switch Trigger Criteria (cont'd)

- 4. The self-provisioning trigger candidate should be relying on ILEC analog loops to connect the customer to its switch or, if a claimed "intermodal" alternative, its service must be comparable to the ILEC service in cost, quality, and maturity.
- 5. The self-provisioning trigger candidate may not be affiliated with the ILEC or other self-provisioning trigger candidates.
- 6. The existence of the self-provisioning trigger candidate should be evidence of sustainable and broad-scale mass market competitive alternatives in the designated market.

Criteria 1: Switches must not be "enterprise" switches.

TRO ¶ 447, n. 1365: "We found significantly more probative the evidence that in areas where competitors have their own switches for other purposes (e.g., enterprise switches), they are not converting them to serve mass market customers and are instead relying on" UNE-P to serve the mass market.

Criteria No. 1: Switches must not be "enterprise" switches. (cont'd)

TRO ¶ 508: "...switches serving the enterprise market **do not qualify** for the triggers described above. ..."

Criteria No. 1: Switches must not be "enterprise" switches. (cont'd)

TRO ¶ 441: "Additionally, the BOCs' suggestion that our analysis should treat switches deployed to serve large enterprise customers exactly the same as those deployed to serve mass market customers ignores the substantial modifications, and attendant costs, necessary to serve mass market customers with an enterprise switch. ... Thus, while we agree that deployment of an enterprise switch is one piece of evidence relevant to the possibility of serving mass market customers – and, indeed, our impairment analysis takes such deployment into account, as discussed below – the fact remains that competitors using their own switches are currently serving extremely few mass market customers, through enterprise switches or otherwise." Footnote 1354 then states: "The dissents' assertion that enterprise switches should be considered in our mass market triggers ignores these substantial differences between the switches serving the different markets." 10

Criteria No. 2: ...actively providing voice service to mass market customers....

TRO ¶ 499: "[T]he identified competitive switch providers should be actively providing voice service to mass market customers in the market."

Criteria No. 2: ...and must be likely to continue to do so.

TRO ¶ 500: "The <u>key consideration</u> to be examined by state commissions is whether the providers are currently offering and able to provide service, and are likely to continue to do so."

Criteria No. 4: "Intermodal service" providers must be offering service comparable to ILEC service in cost, quality, and maturity."

TRO ¶ 499, note 1549: "In deciding whether to include intermodal alternatives for purposes of these triggers, states should consider to what extent services provided over these intermodal alternatives are comparable in cost, quality, and maturity to incumbent LEC services."

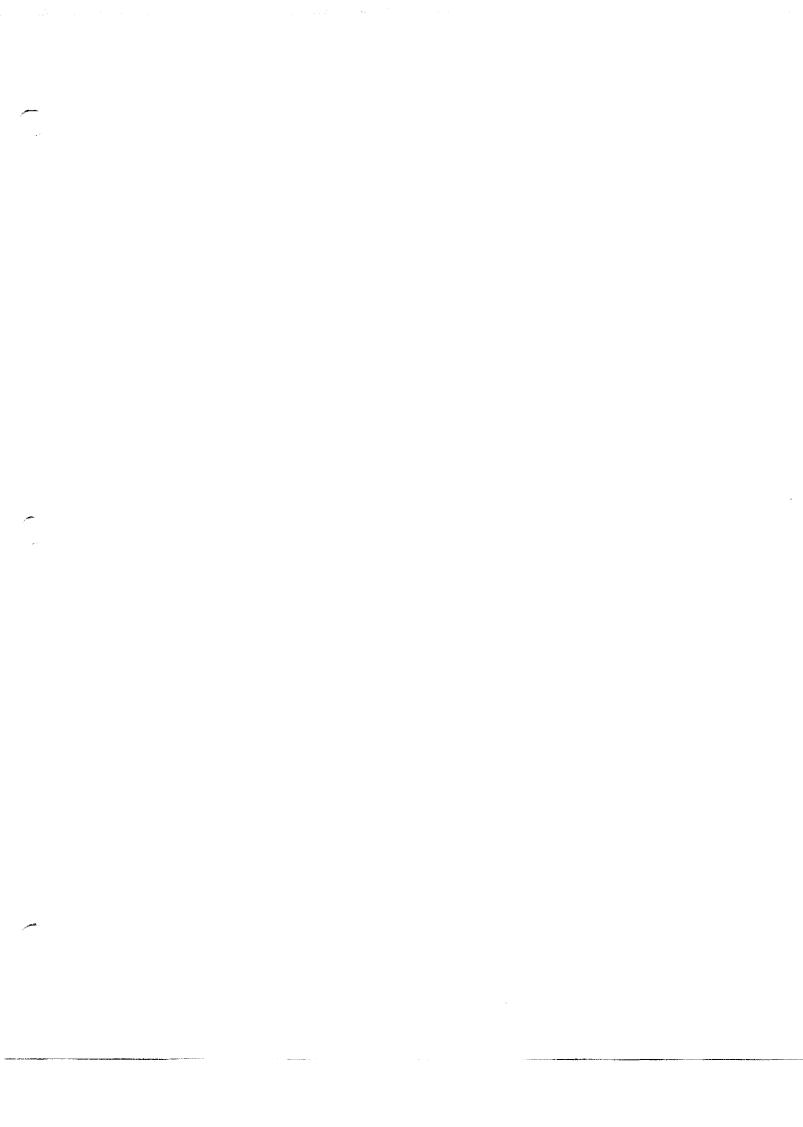
TRO ¶ 499, note 1549: Intermodal service providers must "meet the requirements of these triggers and Part V above. See supra Part V.B.1.d.(ii)."

Criteria No. 5: Trigger candidate must not be affiliated with the ILEC.

This issue is not in controversy in Tennessee.

Criteria No. 6: The trigger candidate should be evidence of sustainable and broad-scale mass market competitive alternatives.

TRO ¶ 189: "To ensure that the states implement their delegated authority in the same carefully targeted manner as our federal determinations, we set forth in this Order federal guidelines to be applied by the states in the execution of their authority pursuant to federal law."



"Trigger" Criteria

Overview

- State of Competition
- DS0 Cutoff The Upper Bound of the Mass Market
- Applying Trigger Criteria to Claimed Trigger Candidates

Scale of the Issue

UNE-P and **UNE-L** Activity in Tennessee – FCC Data

	In-Servi	In-Service Lines		Growth		
	UNE-L	UNE-P	UNE-L	UNE-P		
December-99	35,605	334				
June-00	41,550	2,002	5,945	1,688		
December-00	47,739	15,778	6,189	13,776		
June-01	51,721	30,674	3,982	14,896		
December-01	53,067	50,555	1,346	19,881		
June-02	50,941	75,656	-2,126	25,101		
December-02	49,884	134,636	-1,057	58,980		
June-03	47,327	179,886	-2,557	45,250		

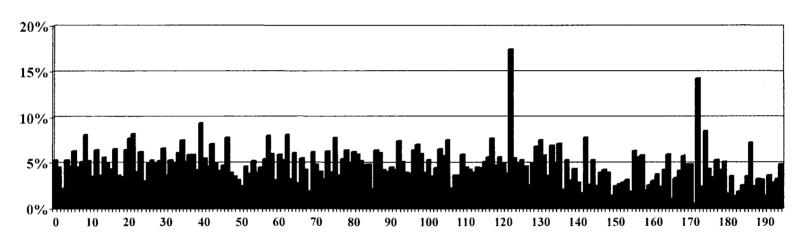
Broad Competition in Every LATA

Current Competitive Activity in BellSouth LATAs (Most Recent Six Months – April to Sept. 2003)

BellSouth	Share Gain	by Method	UNE-P Share by Customer		
LATA	UNE-P	UNE-L	Residential	Business	
Chattanooga	5.7%	0.1%	5.9%	8.6%	
Huntsville - AL	3.1%	0.0%	3.2%	5.3%	
Knoxville	5.1%	0.0%	4.8%	9.3%	
Memphis	5.6%	0.2%	6.2%	6.3%	
Nashville	4.5%	0.2%	5.1%	5.2%	
VA Knoxville	2.8%	0.0%	2.9%	2.7%	
Winchester - KY	4.5%	0.0%	3.7%	14.6%	
Statewide	5.1%	0.1%	5.4%	6.7%	

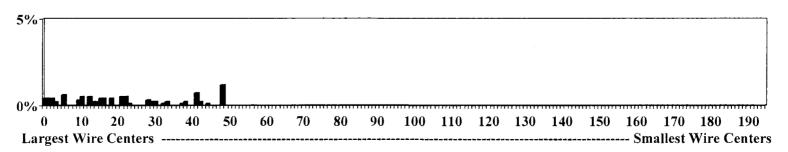
Competitive Profile of UNE-P and UNE-L

Competitive Profile of UNE-P Past 6 Months – BellSouth in Tennessee Lines Added April 2003 through September 2003



Largest Wire Centers ----- Smallest Wire Centers

Competitive Profile of UNE-L Past 6 Months - BellSouth in Tennessee



Mass Market v. Enterprise Market

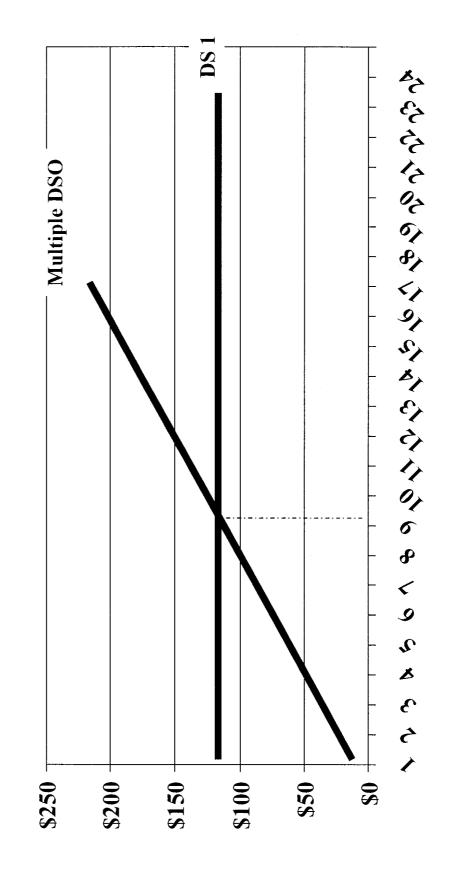
- Not based on customer-designation.
- Technology line difference is between the analog and digital markets.
 - Analog = DS0 = POTS = Mass Market
 - ◆ Digital = DS1 = Enterprise

The DS0-DS1 Cutoff

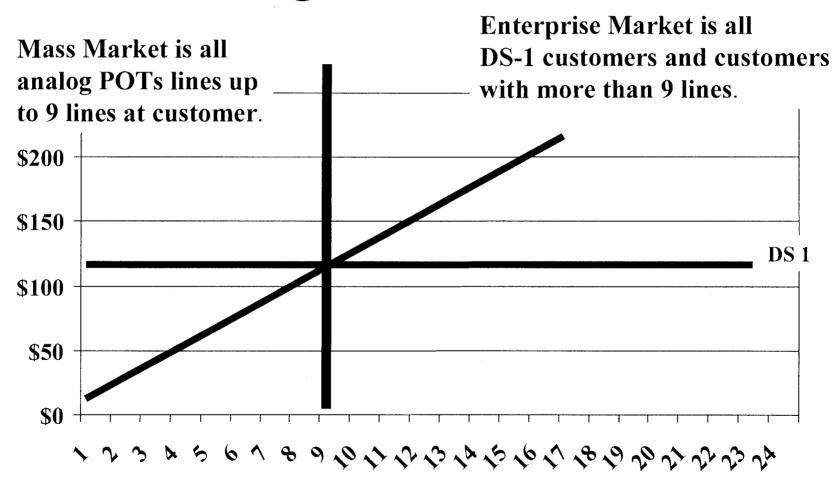
■ FCC requires states to set "upper limit" to the analog mass market with a regulatory rule set at:

"...the point where it makes economic sense for a multi-line customer to be served via a DS1 loop." (TRO ¶497)

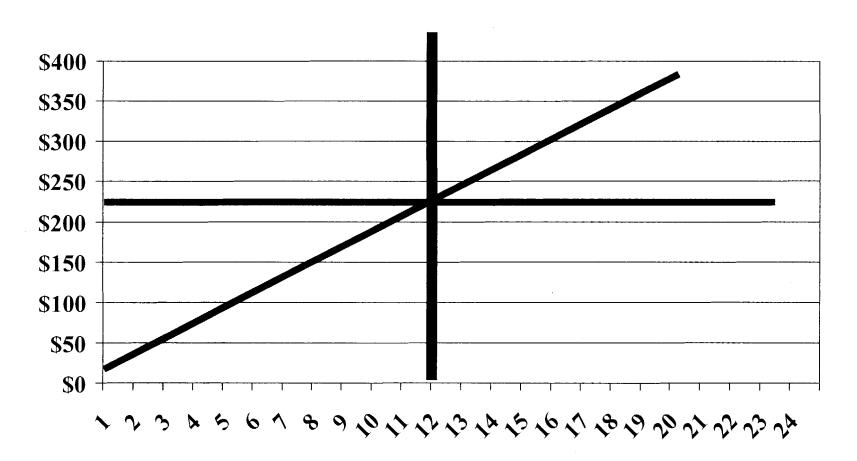
Calculating the Cross-Over



Calculating the Cross-Over



The Cut-off is the Regulatory Limit to Mass Market



Separating the Wheat from the Chaff

BellSouth's Claimed Trigger Candidates

AT&T/Teleport

Electric Board of Chattanooga
ICG Communications

KMC

Network Telephone
SBC Telecom

Xspedius

BellSouth's Claimed Trigger Candidates

Electric Board of Chattanooga
ICG Communications
KMC
Network Telephone
SBC Telecom
Xspedius

BellSouth's Claimed Trigger Candidates

Electric Board of Chattanooga
ICG Communications
KMC
Network Telephone
SBC Telecom
Xspedius

The Enterprise Market Does Not Count

- There is unanimous agreement that DS-1 serving arrangements are enterprise, not mass market.
- FCC recognizes that enterprise switches serve analog lines (¶ 441):
 - "... the fact remains that competitors using their own switches are currently serving extremely few mass market customers, through enterprise switches or otherwise."

FCC Provided Guidance Regarding the Enterprise Market

The record is replete with evidence showing that competitive LECs are successfully using their own switches to serve large business customers that require high-capacity loops (which can be connected to competitive carrier switches with few of the obstacles that affect voice-grade loops). For example, BiznessOnline.Com cites data compiled by a coalition of competitive carriers which examined six representative markets and found that approximately 90 percent of the loops used by competitive carriers in these markets are DS1 capacity or higher loops." (¶ 437)

Actual Study Cited by FCC

State of CLEC Competition

Network Connectivity

As indicated above, CLECs depend heavily on ILEC access to reach and serve customers. As shown in Table 4 below, CLECs facilities are predominately deployed in digital configurations.

Table 4: Comparing Analog and Digital Connectivity³

	Albany	Augusta	Boston	Chicago	Corpus	Portland	Overall
Analog Connectivity ¹	27,380	2,472	57,433	82,446	1,715	9,976	181,422
DS1 Connectivity	6,408	8,784	290,424	539,064	9,288	64,440	918,408
DS3 Connectivity	13.440	Û	183,456	340.032	4,032	86,688	627,648
Percent Digital	42.0%	78.0%	89.2%	91.4%	88.6%	93.8%	89.5%

UNE-L Activity is Enterprise Oriented

Types of UNE Loops (VGE)

UNE-Loop Type	May 2002	Nov 2003	Change
Total Analog UNE Loops (Mass Market)	43,039	34,347	-20%
Total DS-1 UNE Loops (Enterprise)	108,096	204,456	89%

FCC Repeatedly Rejected Trivial Activity:

■ ...the record indicates that competitive LECs have self-deployed few local circuit switches to serve the mass market. The BOCs claim that, as of year-end 2001, approximately three million residential lines were served via competitive LEC switches. Others argue that this figure is significantly inflated. Even accepting that figure, however, it represents only a small percentage of the residential voice market. It amounts to less than three percent of the 112 million residential voice lines served by reporting incumbent **LECs.** (¶ 438) 35

FCC Repeatedly Rejected Trivial Activity:

■ We determine that, although the existence of intermodal switching is a factor to consider in establishing our unbundling requirements, current evidence of deployment does not presently warrant a finding of no impairment with regard to local circuit switching. In particular, we determine that the limited use of intermodal circuit switching alternatives for the mass market is insufficient for us to make a finding of no impairment in this market, especially since these intermodal alternatives are not generally available to new competitors. (¶ 443)

FCC Repeatedly Rejected Trivial Activity:

■ The Commission's *Local Competition Report* shows that only about 2.6 million homes subscribe to cable telephony on a nationwide basis, even though there are approximately 103.4 million households in the United States [2.6] **percent**]. Moreover, the record indicates that circuit-switched cable telephony is only available to about 9.6 percent of the total households in the nation ... it is difficult to predict at what point cable telephony will be deployed on a more widespread and ubiquitous basis.(¶ 444)

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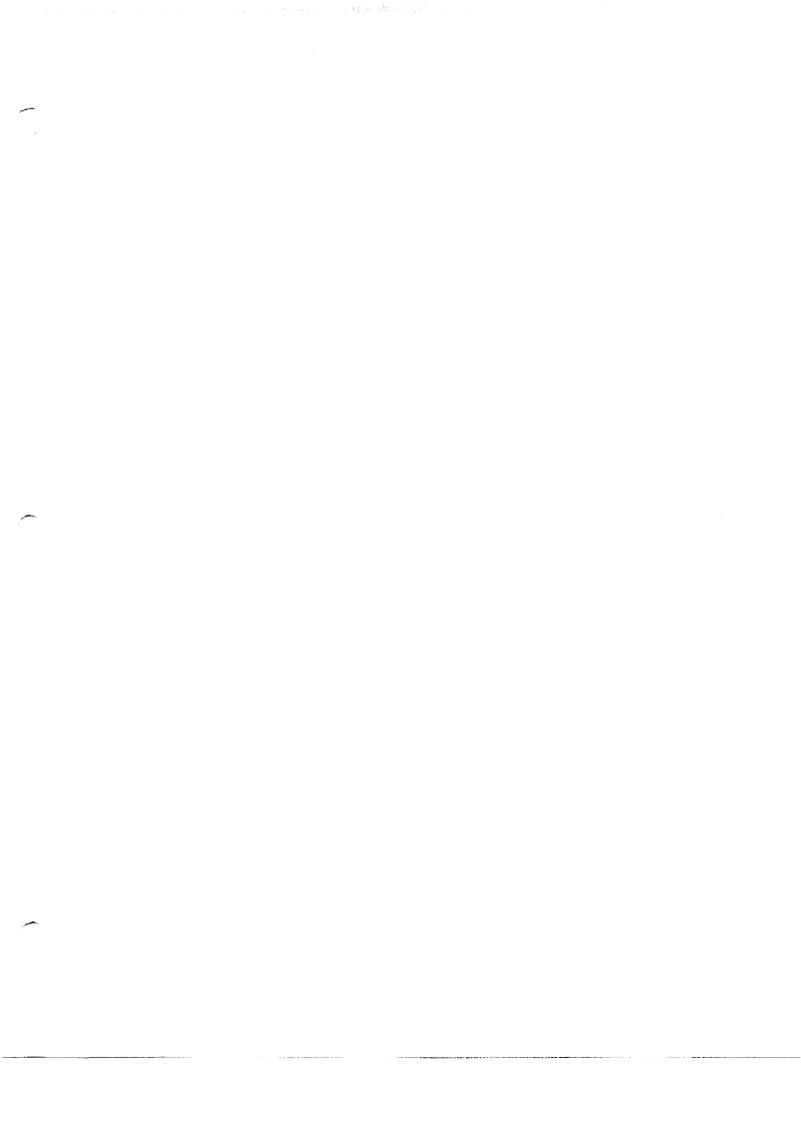
- Current estimates are that <u>only 1.7%</u> of U.S. households rely on other technologies to replace their traditional wireline voice service. (n. 1356)
- In particular, <u>only about three to five percent of</u>

 <u>CMRS subscribers</u> use their service as a replacement for primary fixed voice wireline service, which indicates that wireless switches do not yet act broadly as an intermodal replacement for traditional wireline circuit switches. (¶ 445)

BellSouth's Triggers are Trivial

Known and Maximum Share of Trigger Candidates

Claimed Trigger Candidate	Known Share	Maximum Share
CLEC A	0.1%	0.2%
CLEC B	0.0%	0.0%
CLEC C	0.0%	0.0%
CLEC D	0.0%	0.1%
CLEC E	0.0%	0.0%
CLEC F	0.0%	0.0%
CLEC G	0.3%	0.3%
CLEC H	0.0%	
Total Share of All Triggers	0.5%	



Review of BACE Model

BellSouth's BACE Model

- Attempts to demonstrate economic feasibility of new entrant serving mass market with own switch.
- Model takes assumptions about costs, prices, customers, quantities, etc., mixes them up in a complex set of calculations, computations, algorithms and optimization procedures.
- Result: According to the BACE Model...
 - ◆ Providing local service to mass market using UNE-L is extremely profitable, actually <u>more</u> profitable than BellSouth's core business.
 - Concludes FCC's national finding is wrong for every single major market in Tennessee.

BellSouth's BACE Model Organization

- The BACE model is organized around four "processes" that correspond generally to four major components of a business case analysis.
 - ◆ The determination of the prices that the Competitive Local Provider ("CLEC") can be expected to receive for the services they sell (the price process, or "P-Process").
 - ◆ The quantities of each of these services the CLEC can be expected to sell (the quantity process, or "Q-Process").
 - ◆ The revenues produced by the interaction of prices and quantities achievable by the CLEC (the revenue process, or "R-Process").
 - ◆ The costs that a CLEC can expect to incur to construct and operate the network necessary to provide these services (the operations and network process, or "ON-Process").

BACE Model is Not an Open Model

- Some of the BACE input (and intermediate) tables provided in BellSouth's Opening Evidence could not be accessed (and, therefore, modified or evaluated) by the user— which makes effective auditing of the model impossible.
- BellSouth has not provided the un-compiled version of the source code for the BACE model. (i.e., only a hard copy printout of 100 pages of computer code was provided)
- The BACE model does not comply with the FCC's requirement for an open and transparent model.
 - "model and all underlying data, formulae, computations, and software associated with the model must be available to all interested parties for review and comment." *Tenth Report and Order, FCC, CC Docket 96-45, paragraph 38*

Concerns Regarding The Ability To Review BACE

- BACE defines demand in terms of individual wire centers; it defines markets in terms of Component Economic Areas ("CEAs") which do not necessarily coincide with the wire center boundaries; and it builds the network based on one switch per LATA although LATA boundaries do not necessarily coincide with CEA boundaries.
- BACE segments residential and business customer classes into "spend" categories.
- BACE makes choices between alternative entry strategies (EEL versus collocation, for example) and allows the user to eliminate "un-profitable" services or markets. This process is not reviewable.
- The Commission and its Staff are prevented from comparing certain inputs and calculations with those made by other parties (without full access to the BACE input data and pre-processing code).

BACE Inputs -- Market Share

- BACE assumes a single CLEC will capture 15% of every geographic market.
- BACE assumes a CLEC will capture more than twice the average share of the highest SOHO spending customers.
- Model results are extremely sensitive to changes in the ultimate market share.
 - ◆ Reducing this assumption from 15% to 5% significantly reduces the NPV.

	NPV			Percent Change		
	MM	E	Total	MM	E	Total
BellSouth Opening	15,671,298	41,881,082	57,552,380			
Ultimate Market Penetration Set at 5 Percent	7,358,347	(10,419,842)	(3,061,495)	-53.0%	-124.9%	-105.3%

BACE Inputs -- Market Share

- There is <u>NO</u> Tennessee specific evidence to support a 15% CLEC market share assumption---particularly for the highest spending customers.
- Actual CLEC Market Share in Tennessee is <u>much</u> lower.
 - ◆ According to the FCC's recent Local Competition Report total penetration of 11 CLEC's in Tennessee is approximately 10% of switched access lines across the state as of June 30, 2003. (and only 4.6% for residential and small business customers)
- Dr. Aron contemplates up to 4 CLEC's in a market (plus an ILEC) implying CLECs acquiring 60% market share by the end of year 10.

BACE Model -- Growth in Market Share

- BACE Model assumes a CLEC will achieve half of the 15% ultimate market share by the end of Year 1 and 75 percent by the end of Year 2.
- The rapidity with which the BACE model assumes that this ultimate penetration will be achieved is unsupported.
 - ◆ No Tennessee-specific CLEC data provided.
 - ◆ Since 1996, on average each CLEC operating in Tennessee has acquired approximately 9 / 10 of one percent of the switched access lines in the state.
- BACE's use of rapid growth rate and overstated final market share assumption virtually guarantees success of CLEC in BACE model.

BACE Inputs -- Pricing Assumptions

- BACE has overstated prices that are assumed fixed for the entire discounted cash flow period.
- Purports to start with BellSouth retail prices and makes 10 percent price reduction to only a very limited number of product offerings.
 - ◆ Dr. Aron's preprocessing of the price data is not available for review.
 - ◆ Assumes customers will be willing to switch with little to no appreciable price reduction.
- BACE assumes that initial retail prices will remain constant for 10 consecutive years.
 - ◆ Assumes the ILEC, other CLECs and intermodal competitors will not offer price reductions to "winback" or attract these highly profitable customers.
- Fails to consider competitive responses observed in the real world, which renders pricing and market share assumptions non-credible.

BACE Inputs -- Pricing Assumptions

- Independent analyst forecasts for local and long distance services anticipate future declines in the average revenue per line. Within the long distance product pricing arena, independent analysts expect **significant price declines**, approximating 10 percent per year through 2008.
 - ◆ The telecom industry is entering a new era of heightened competitive pressure. Historic drivers of growth will increasingly cannibalize legacy revenues, prompting slower revenue growth and accelerating price competition across all major lines of business.
 - ♦ **Heightened competitive pressure** will likely limit the industry's top-line growth to 1% per annum through 2007. Double-digit declines in long-distance voice should be partially offset by modest growth in wireless, local data.
 - ◆ Consumer Revenue Should Feel Most Pressure. All three of these competitive pressures-wireless migration, new entrants and wireless substitution-should conspire to reduce the consumer retail long-distance market from \$20 billion in 2002 to just \$9 billion in 2007. We expect volumes to continue to decline around 6% per year, pricing pressure to continue at 5% per year, and access lines (including cable) to decline by 3%.

BACE Inputs—Pricing Assumptions

■ Comparison to Retail Prices Suggest that Initial BACE Input Overstates CLEC Revenue Starting Point

Comparison of Local Service Retail Price Assumptions

	Average Residential Rate (Per Mo)	Average Business Rate (Per Mo)	
BACE Model ¹	\$31.87	\$74.95	
Average Tennessee Customer ²	\$23.55	\$59.17	

¹⁾ Year 1 Average revenue per line as reported from the tblCMaster file for residential and SOHO customers.

²⁾ http://www.nrri.org/documents/BillyJackGreggUNEmatrix1-04.xls

BACE Inputs—Other Flawed Assumptions

- Bellsouth assumes that the level of CLEC entry will be sufficient to permit the CLEC to achieve the cost reducing effects of scale economies to the same extent BellSouth does today and understates the CLEC costs.
 - ◆ BellSouth's purchasing power inputs assume that the CLEC will receive the same vendor price discounts for equipment and services that are achieved by BellSouth.
 - ◆ BACE assumes that major components of cost such as General and Adminstrative are a function of revenues, which is flawed.
 - ♦ It assumes G&A costs match revenues when CLECs will spend significantly before acquiring any customers.

Summary of Sensitivities to the BellSouth BACE Model

	NPV			Р	ercent Change	
	MM	E	Total	MM	E	Total
BellSouth Opening	15,671,298	41,881,082	57,552,380	-		
Ultimate Market Penetration Set						
at 5 Percent	7,358,347	(10,419,842)	(3,061,495)	-53.0%	-124.9%	-105.3%
Straight Line Penetration for						
Residential Customers	10,185,428	37,341,395	47,526,823	-35.0%	-10.8%	-17.4%
15 Percent Price Reduction in					/	
Year 1 and Held Constant	(602,403)	1,856,167	1,253,764	-103.8%	-95.6%	-97.8%
Annual Price Decrease of 1						
Percent on Products and	4 000 700	00 704 570	05.004.005	00.00/	00.50/	20.40/
Bundles	4,826,722	30,794,572	35,621,295	-69.2%	-26.5%	-38.1%
Removal of 10 Percent CLEC Discount and 10 Percnet						
Discount Applied to All Products					-	
and Bundles	660,970	29,190,326	29,851,296	-95.8%	-30.3%	-48.1%
Including Subscription in Bundle	000,970	29, 190,320	29,031,290	-93.070	-30.376	-4 0.170
Discount	0	22,396,440	22,396,440	-100.0%	-46.5%	-61.1%
Churn Increase of 25 Percent	11,134,608	37,531,324	48,665,932	-28.9%	-10.4%	-15.4%
Churn Decrease of 20 Percent	22,462,303	44,037,765	66,500,068	43.3%	5.1%	15.5%
		, , -	, -,			

Anomalous Results in the BACE Model

- BellSouth BACE Model indicates that the local services product for the mass market customers derives a large negative NPV suggesting that facilities based entry may be unlikely for the local services mass market.
- The vast majority of the profitability to the mass market is derived from the long distance business segment—which in reality faces intense competition. CLECs are not making this profit in the long distance market today.

Summary of Net Present Value by Customer and Product Segment BellSouth Tennessee

		Net Present Value						
	Eqn	All Products	Local	Long Distance	Internet	VoiceMail		
Business								
SOHO	а	\$16,669,391	\$6,679,627	\$9,091,559	\$538,732	\$359,472		
SME/A	b	\$12,451,085	<u>(\$6,429,859)</u>	\$12,303,033	\$5,706,587	\$871,323		
SME/B	C	\$12,401,128	\$3,699,273	\$7,933,976	\$455,940	\$311,938		
SME/C	d	\$17,028,869	\$7,636,592	\$8,835,969	\$556,307	\$0		
Residential	е	<u>(\$998,093)</u>	<u>(\$52,384,000)</u>	\$42,031,354	<u>\$4,832,499</u>	<u>\$4,522,054</u>		
Total	f = sum (a:e)	\$57,552,380	<u>(\$40,798,365)</u>	\$80,195,891	\$12,090,066	\$6,064,788		
Mass Market NPV	g = a + e	\$15,671,298	(\$45,704,372)	\$51,122,913	\$5,371,230	\$4,881,526		
Enterprise NPV	h = f - g	\$41,881,082	\$4,906,007	\$29,072,978	\$6,718,835	\$1,183,262		
Source: BACE Mod	el Revenue and C	Cost Summary						

Anomalous Results in the BACE Model

- Changing the ultimate market share from 15 percent to 5 percent produces illogical results.
 - ◆ It reduces the NPV for the Mass Market by approximately 53 percent when the ultimate market share is reduced from 15% to 5% while the NPV for Enterprise market decreases by 125 percent --- producing an illogical negative net present value for the entire Enterprise market.
 - ◆ It increases the net present value of the total market for two CEA's. Specifically, as the market share was reduced to 5 percent, the NPVs for Enterprise customers in Zone 2 Chattanooga TN-GA and Zone 2 Knoxville TN increased by 18 percent (\$846,095 / \$712,109-1) and 31 percent and (\$1,410,180 / \$1,074,121-1), respectively.

Concluding Comments on BellSouth's BACE Model

- BACE violates the FCC's requirement for an open and transparent model.
- BACE is untested and produces anomalous results.
- ◆ BACE's assumed CLEC ultimate market share of 15%, and the rapidity with which the CLEC is assumed to acquire market share, are simply not supported.
- ◆ The BACE retail price assumptions -- held constant for the 10 year study period -- contradict evidence of realistic expectations for the market.
- ◆ BellSouth's understates its costs by assuming that the level of CLEC entry will be sufficient to permit the CLEC to achieve the cost reducing effects of scale economies to the same extent BellSouth does today and understates the CLEC costs.

BACE Price Assumptions

TRO ¶ 517: a determination of whether entry is economic depends on forecast of "likely" future revenues.

- In a business case analysis, the relevant price to be considered is the expected price *over time*.
 - ◆ In a ten year analysis, it is essential that price changes (and their impact on revenue) be accurately predicted.
- The revenue potential varies by market in part because of variations in current prices by location, and the business case analysis must reflect this.

TRO paragraph 425: "Revenue potential also varies dramatically, as retail rates can vary ... by the type of customer and within the state."

TRO paragraph 485: "That market specific data is needed is indicated by the significant variation in costs and revenues an efficient entrant is likely to face."

BACE Inputs: Price Levels

- **BellSouth**: In a competitive market, and over a ten year period, prices will be maintained at current levels
- Reality: Prices have decreased in the post-divestiture interexchange market
- Reality: BellSouth is currently operating on "the bleeding edge" with its Winback Program

BACE Inputs: Price Levels

- Reality: FCC TRO ¶ 484: Entry is more likely to be economic in areas with "high retail rates relative to cost." *Retail rates in such an area are also the prices least likely to be maintained over time.*
 - In order to accurately predict price changes, it is necessary to look at existing prices and costs at the necessary level of granularity. BellSouth prices and costs vary at the level of the wire center.
 - ◆ The BACE model relies on preprocessed information regarding prices and **cannot** reflect this essential level of granularity.
 - ◆ The Product Price Table permits manual changes to future price levels aggregated at the level of BellSouth's identified markets, but does not permit changes at the level of granularity needed to accurately reflect how BellSouth's prices vary and will likely change.

BACE Inputs: Customer Segmentation

- **BellSouth**: Customers should be divided into segments based on current spending patterns
- **Problem**: BellSouth's approach is a direct violation of the TRO. The FCC rejected BellSouth's analysis because it "failed to use the likely revenues to be obtained from a typical customer." (TRO ¶ 483)
- **Problem**: BellSouth's approach ignores *why* customer spending varies; some customers spend more because they buy more, some spend more because live in an area with high BellSouth prices. The former is likely to continue to spend at higher than normal levels, while the latter is highly unlikely to do so for a ten year period.

- Net Present Value is calculated based on expected revenues and expected costs over time, discounted to a current value.
- In order for the results of the business case to have meaning, the discount rate *must* accurately reflect the risk associated with the potential investment.
- This relevant risk is a function of the general availability of capital, potential investors' perception of the industry segment, the risk that is specific to the CLEC's operation generally, and the risk that is specific to the investment being considered.

- According to Dr. Billingsley and the articles he cites:
 - "The entire telecommunications industry is competitive and risky, and is growing more so with the passage of time."
 - "Tighter profit margins for all players" and "falling prices for both voice and data services" should be predicted.
 - ◆ There is an "ongoing drought in the capital markets" with regard to CLEC investment, although "a handful of competitive providers" have received capital investments.

According to Dr. Billingsley and the articles he cites:

The reason for previous CLEC bankruptcies is well known: "the CLECs acquired billions of dollars in financing to invest in telecommunications infrastructure" based on inflated demand forecasts, and "when this demand did not materialize, the CLECs were left with billions of dollars in debt and no way to pay it off."

What does Dr. Billingsley do?

Rather than adjusting his calculation to reflect these factors, Dr. Billingsley instead adjusts his cost of capital result *downward*.

Problem: The risk associated with the business plan assumed in the BACE is well documented and should not be ignored.

- Dr. Billingsley used DCF and CAPM methods to calculate CLEC cost of capital.
- He notes the increasing level of risk, declining margins, and the experience of CLECs who incurred large of amounts of debt.
- He notes difficulty in finding financially solvent publicly traded CLECs for use in his analysis
- He calculates a cost of capital based on CLECs currently using UNE-P/UNE switching to serve mass market customers

BellSouth ignores the following common sense questions:

■ Why will a CLEC that incurs the greater risk to self-deploy local circuit switching enjoy a lower cost of capital than a CLEC using UNE switching?

By understating the cost of capital and discount rate, BellSouth has significantly overstated the NPV of the business case

■ Where will the necessary billions of dollars of capital come from?

Even if BellSouth's analysis were found to be 100% correct, if CLEC's cannot obtain the necessary capital the impact on end user customers will be the same: they will have no competitive alternatives for mass market services

Public Policy Considerations

Can Impairment Models Provide the Answer?

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Public Policy Considerations

- FCC National Finding of Impairment
 - ◆ Recognized severe operational problems with provision of UNE-L service
 - ◆ Found that economic factors may prevent CLECs from operating without access to unbundled switching
- The Tennessee Regulatory Authority has an Obligation to Protect Tennessee Consumers
 - Will consumers continue to enjoy the benefits of competition if UNE-P is eliminated?

Public Policy Considerations

- To err on the side of non-impairment will have irreversible negative consequences
 - ◆ Exit from the market of competitive carriers
 - Elimination of competitive alternatives for consumers
 - Creation of unfettered monopoly
- To err on the side of impairment will be largely selfcorrecting
 - ◆ Permits competitive carriers to build market share and make self-deployment more feasible
 - ◆ As operational and economic barriers are overcome, facilities-based competition will evolve and CLEC demand for UNE-P will decline

Can BACE provide the answers?

- Material Changes to Key Inputs Produce Little Change in Profitability
 - ◆ Changing churn rates has little effect on profitability
 - ◆ Changing market share has little effect on profitability
- Changes to Certain Inputs produce Illogical Results
 - ◆ Example: Increasing churn from 5% to 6.5% caused some wire centers to become *more* profitable

Why can't CLECs use UNE-L?

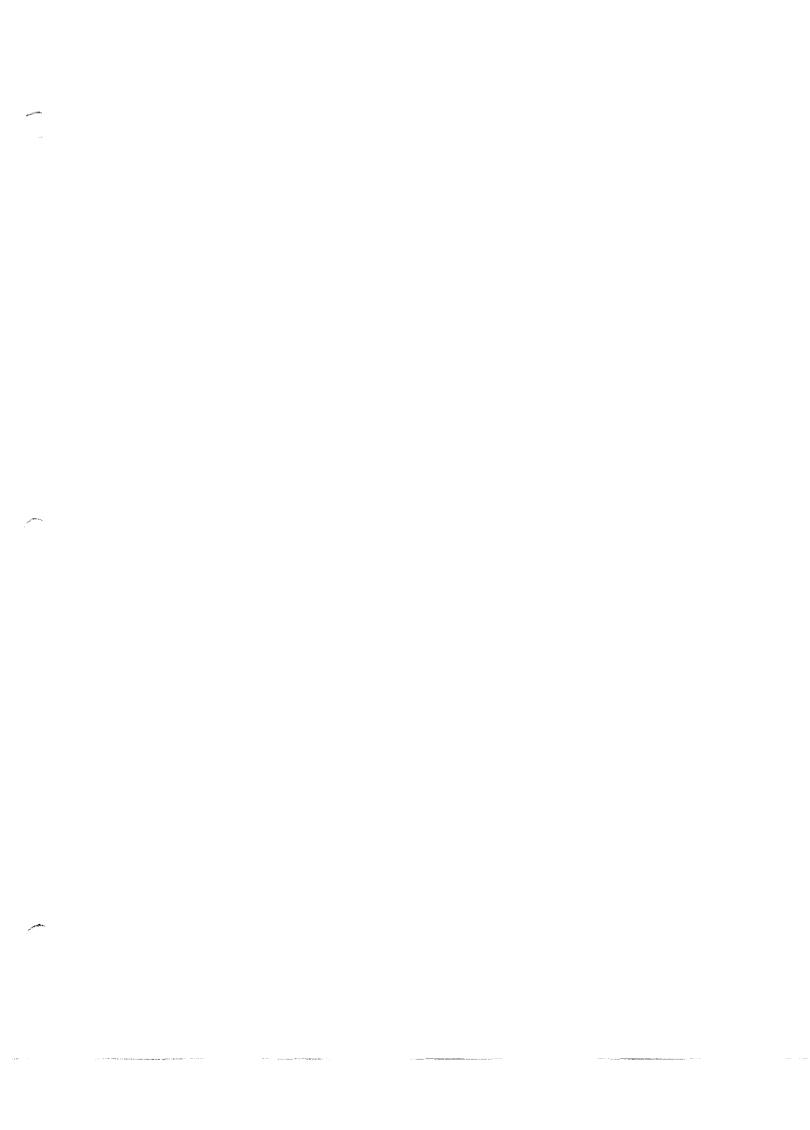
- Several factors are important in determining the profitability of CLEC UNE-L entry, including the cost of switching and the cost of developing OSS and sales processes.
- A critical factor is the cost of collocation and backhaul & operational issues:
 - ◆ Massive investment in establishing collocations ubiquitously; and
 - ◆ Without a critical mass of customers in each wire center, mass market service just isn't feasible.

Summary

- Problems with BACE's demand inputs.
- Problems in the model's cost inputs and calculations and the illogical results it produces.
- Faulty revenue and cost of capital inputs.
- The public policy context in which to evaluate the model.

Conclusion:

BellSouth's Potential Deployment Case for Mass Market Switching does *not* provide the evidence necessary to overturn the FCC's national finding of impairment.



Operational Impairment

Hot Cuts Cause Impairment

The FCC Found Hot Cuts Cause Impairment

- There is a <u>practical limitation</u> on how many manual hot cuts an ILEC can perform.
- Hot cuts are labor intensive.
- Hot cuts require the expenditure of substantial ILEC and CLEC resources.
- Hot cuts generally impose **prohibitively high** external and internal **costs** on competitors.

The FCC Found Hot Cuts Cause Impairment

- Hot cuts often result in **provisioning delays**.
- Hot cuts can cause significant **service outages**.
- Poor hot cut performance causes <u>customer</u>
 <u>dissatisfaction</u> with individual competitors and the competitive process in general.

What is the CUSTOMER IMPACT of these deficiencies?

"Service disruptions also will influence customer perceptions of competitive LECs' ability to provide quality service, and thus affect competitive LECs' ability to attract customers." ¶ 466 (emphasis added)

Coordinated cutovers "**prevent**[] the competitive LEC from providing service in a way that mass market customers have come to expect." ¶ 466 (emphasis added)

"Most importantly, mass market customers generally demand reliable, easy-to-operate service and trouble-free installation...

Accordingly we find the evidence in the record persuasive that the hot cut problem would be particularly great for transferring existing mass market customers in a cost-effective and operationally seamless manner." ¶ 467. (emphasis added)

What is the CUSTOMER IMPACT of these deficiencies?

"...we find that it is <u>unlikely</u> that incumbent LECs will be able to provision hot cuts in sufficient volumes absent unbundled local circuit switching in all markets. ¶ 468 (emphasis added)

"[T]here is a significant amount of churn or movement, among mass market customers. Mass market customers move freely from carrier to carrier when they desire, and have come to expect the ability to change local service providers in a seamless and rapid manner... The evidence in the record demonstrates that customer harriers to serving mass market customers." \$\frac{471.}{471.}\$ (emphasis added)

The Facts of AT&T's Hot Cut Experience

- Consistent with the FCC TRO findings
- Resulted in untenable levels of customer dissatisfaction, operational difficulties and prohibitively high costs
- Occurred using the same process BellSouth uses today

Why BellSouth's Hot Cut Process Is Inadequate

BellSouth's Process is:

■ The same MANUAL provisioning process it has always had in place.

Mass Markets Consumers

- Move frequently from Carrier to Carrier
- Expect seamless, trouble-free transitions
- Rely on their home and small business telephones for their day-to-day needs and even their personal safety

BellSouth Has No Mass Markets UNE-L Track Record

- BellSouth receives fewer than 2,700 UNE-L orders per month region wide on average (BellSouth Response to AT&T Int. 28), compared to more than 150,000 UNE-P migration orders. (BellSouth Response to AT&T Int. 32)
- BellSouth speculates that it can cut 347,150 lines per month. In fact, the highest number of hot cuts it has ever handled in a month is 19,029.
- BellSouth projects that it can process 15,567 hot cuts per day. In reality, it typically handles only 8,600 UNE-L cutovers per month.

BellSouth's UNE-L Systems Have Too Many Manual Touch Points

- Most UNE-L orders fall out for manual processing, increasing the chance of errors. BellSouth estimates only 37% of UNE-L orders flow through electronically. (Ainsworth Dep. p. 126.)
- UNE-P flow through is much higher generally 80% 90%. (BellSouth Response to AT&T Int. 32.)
- Hot cut process is entirely manual. Every loop that is cut over has to be physically lifted and laid by an ILEC technician.
- Routine UNE-P migrations take .34 days to complete. UNE-L with LNP orders take 5 days. (Van De Water Switching Direct, p. 16.)

BellSouth Promises Improvements

■ Web-based notification tool

June, 2004

■ DS0 EELs

July, 2004

■ Web-based scheduling system

Oct., 2004

■ CLEC UNE-L to CLEC UNE-L

TBD

Facts v. Promises

- BellSouth suggests the CLEC criticism of its batch hot cut process is not based on facts.
- Yet their batch provisioning process is the same manual process that the FCC considered and rejected, finding that it causes impairment.
- Let's look at the facts of what the FCC found over the promises of BellSouth and the other ILECS.

Fact: FCC Finding **Promise:** BellSouth Position "...[W]e find that the issue is not Current BellSouth how well the process works performance is sufficient for currently with limited hot cut future performance. volumes, rather the issue identified by the record is an inherent limitation in the number of manual cut overs that can be performed...." See ¶ 469

Fact: FCC Finding

Promise: BellSouth Position

"We find, however, incumbent LEC's promises of future hot cut performance insufficient to support a Commission finding that the hot cut process does not impair the ability of a requesting carrier...there is little other evidence in the record to show that the incumbent LECs could efficiently and seamlessly perform hot cuts on a goingforward basis for competitors who submit large volumes of orders to switch residential subscribers." n.1437

BellSouth Promises of Future Performance:

- Our unproven models will work.
- We'll hire enough people.
- We'll spend enough money.
- Our manual provisioning process won't crash under the weight of heavy future volumes.

Fact: FCC Finding **Promise:** BellSouth Position "[T]he Commission's prior findings 271 approval demonstrates we in section 271 orders do not support a can do the job. finding here that competitive carriers would not be impaired if they were required to rely on the hot cut process to serve all mass market customers...[T]hese orders examined the adequacy of hot cuts at a time when competitive LECs were principally using unbundled local circuit switching to compete for mass market customers...." n.1435 (emphasis added)

Fact: FCC Finding	Promise: BellSouth Position
"[In addition], because there generally are no performance intervals associated with these approaches, incumbent LECs are not subject to financial penalties for inadequate performance." ¶ 474 (emphasis added)	Current standards and penalties will ensure performance.

CLEC Response to ILEC Batch Offerings

- BellSouth's vague promises/inadequate improvements
 - ◆ "Timely" Restoral of Service makes no time commitments
 - ◆ The Web-based communications tool is only for non-coordinated cuts
 - ◆ DSL is not included
 - ◆Embedded Base Only
 - ◆Inadequate testing

BellSouth Batch Options vs. AT&T Recommendation*

*AT&T recommendation from pages 32-36 of direct testimony Mark Van de Water

AT&T Recommendation	Ainsworth / Pate	McElroy
Include IDLC	Yes	Yes
Include UNE-L line splitting	No	??
CLEC to CLEC	Yes – few details on process.	??
Operate in conjunction with acquisition process (UNE-P)	No-embedded base only	No-embedded base only
24 hour scheduling with no overtime costs	Includes Saturday and after hours (costs?)	??
CLEC specific batches	Yes	?
Window of time specific batches all cuts to be started and completed within window	4 hour window for coordinated Same day for end-users "account" Unclear on same day for all	No. Orders will be completed in negotiated period not to exceed 60 or 180 days.
Sufficiently scalable to meet mass market demands	No	No
Process available on an ongoing basis	No	No
Real time electronic notification of status including order completion, e.g. Verizo's WPTS with AT&T proposed enhancements	Web based communications system "Similar" to Verizon & SBC but for non-coordinated only. Not enough information to assess. Web based scheduling tool similar to Verizon. (Not enough information to assess)	??

BellSouth Batch Options vs. AT&T Recommendation*

*AT&T recommendation from pages 32-36 of direct testimony Mark Van de Water

AT&T Recommendation	Ainsworth / Pate	McElroy
CLECs should not have to prescreen for batch eligibility	??	??
UNE-P rate until converted	Yes	UNE-L rate when service order created
ILEC should electronically notify when batch is ready for scheduling	??	No
Sufficient lead time to notify customers, etc – 4 days from LSR submission	No/Reduced provisioning interval from 14 to 18 days	No/no customer specific due dates provided
Ability to make changes to orders with batch due date assigned	??	No
Equivalent OSS functionality to UNE-P Pre-Order/Order Flowthrough One LSR Directory Listings	No	No. BellSouth issues orders/no change from today.
Self executing process to immediately switch customers back if a cut fails (regardless of fault)	Unknown-simply refers to timely restoral/does not appear to support port in error.	??
Low Cost	No. 10% discount	No. 15% to 25% discount
Testing using collocation and sustained significant volume of ILEC customers	Inadequate testing	No testing
No negative impacts on process and databases (part of test)	Not addressed	Not addressed

BellSouth Batch Options vs. AT&T Recommendation*

*AT&T recommendation from pages 32-36 of direct testimony Mark Van de Water

AT&T Recommendation	Ainsworth / Pate	McElroy
No negative impacts on process and databases (part of test)	Not addressed	Not addressed
Trunking issues	Not addressed	Not addressed
Availability of copper/UDLC	Not addressed	Not addressed
CFA Inventories	Not addressed	Not addressed
Collocation issues	Not addressed	Not addressed
Exceptions to acquisition period	Not addressed	Not addressed
Double migration	Not addressed	Not addressed
Metrics	Not addressed	Not addressed
Meaningful SEEM	Not addressed	Not addressed
	Include DS0 EEIs	

Standards for review of hot cut process

Footnote 1574:

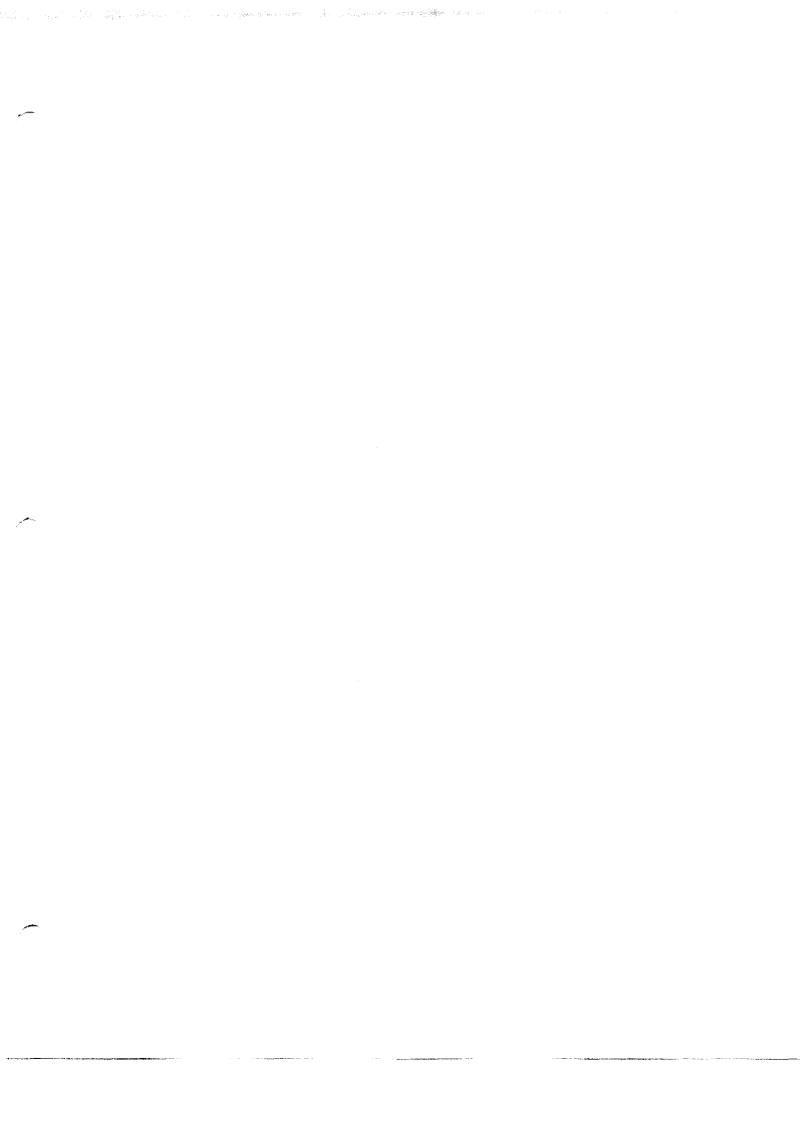
"This review is necessary to ensure that customer loops can be transferred from the incumbent LEC main distribution frame to a competitive LEC collocation as promptly and efficiently as incumbent LECs can transfer customers using unbundled local circuit switching." n.1574

Standards for review of hot cut process

512. Loop Provisioning. We have found on a national basis that the delays and costs associated with loop provisioning – those specifically arising from the hot cut process – impair a requesting carrier's entry into the mass market. Above, we have directed the state commissions to implement batch cut processes to reduce the economic and operational barriers posed by the present hot cut process. We recognize, though, that even after such processes are implemented, competitive carriers may face barriers associated with loop provisioning – even problems arising from the newly improved hot cut processes – which may continue to impair a requesting carrier's entry into the mass market. We therefore ask the state commissions to consider more granular evidence concerning the incumbent LEC's ability to transfer loops in a timely and reliable manner. Specifically, we ask the states to determine whether incumbent LECs are providing nondiscriminatory access to unbundled loops.1574

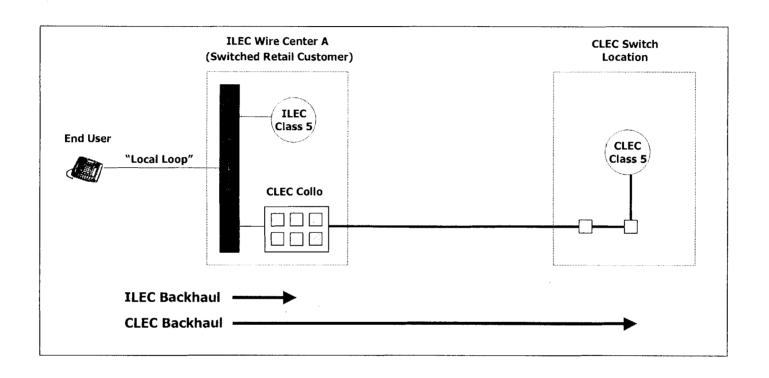
CONCLUSION

- CLECs have an incentive to use their own facilities when and where it makes sense.
- Entry barriers stand in the way of CLECs' using their facilities to serve the mass market. CLECs are impaired.
- After finding impairment, the Commission should work with the industry to develop the improvements necessary to enable the ILECs' UNE-L systems to process mass market volumes as seamlessly as BellSouth's UNE-P systems do today.



Network Architecture and the **Backhaul Penalty**

Collocation and Backhaul



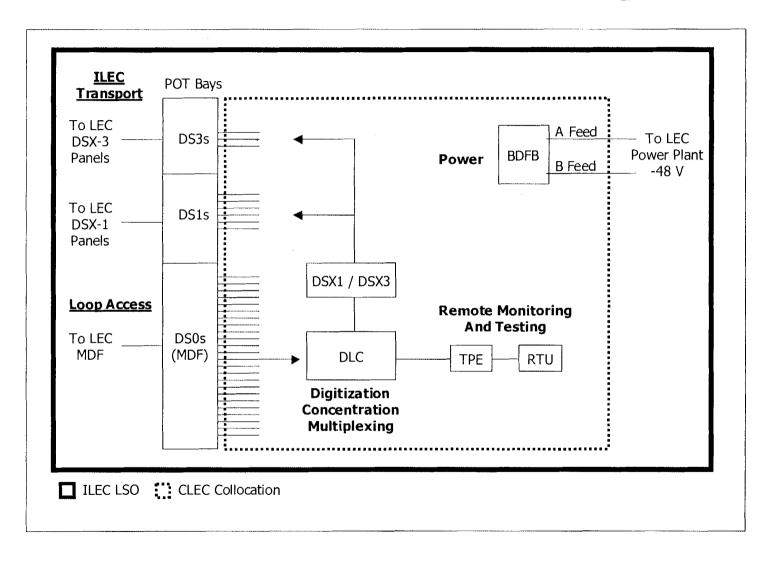
Network Impairment is Systemic

- All mass market loops terminate at BellSouth's switches.
- No mass market loops terminate at CLEC's switches.
- This is the fundamental characteristic of the legacy network that causes the impairment.

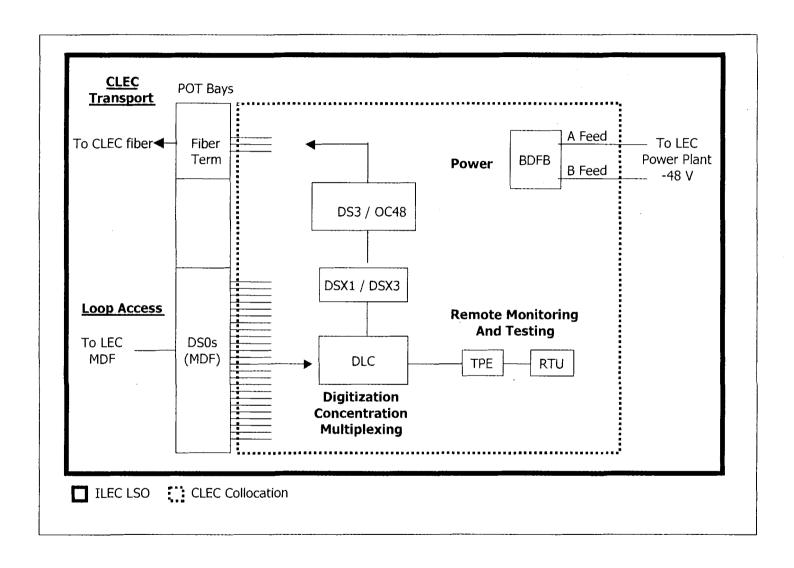
TRO ¶ 429

"We note that an important function of the local circuit switch is as a means of accessing the local loop. Competitive LECs can use their own switches to provide services only by gaining access to customers loop facilities, which predominately, if not exclusively, are provided by the incumbent LEC. Although the record indicates that competitors can deploy duplicate switches capable of serving all classes, without the ability to combine those switches with customers' lops in an economic manner, competitors remain impaired in their ability to provide service."

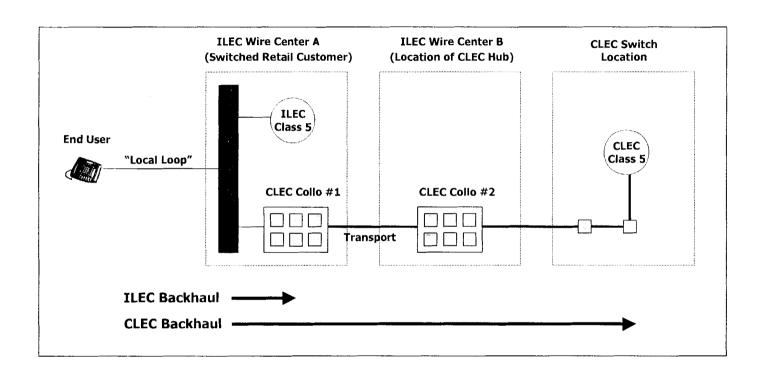
Collocation with ILEC Transport



Collocation with CLEC Backhaul



Collocation Hubbing and Backhaul



DS0 Impairment Analysis Tool Cost Categories

- Identifies Impairment Cost for a Large Efficient CLEC for ...
 - ◆ Preparing Loop for Transport to CLEC Switch
 - ♦ Collocation Arrangement
 - ◆ Cross-Connect Frame
 - Analog to Digital Conversion Equipment (Digital Loop Carrier)
 - Remote Test Equipment
 - ◆ Backhaul Cost
 - ♦ Construction of a Transport Network Shared with Enterprise Traffic
 - ♦ Lease of Special Access Facilities
 - ◆ Customer Conversion Cost (Hot Cuts)
 - Nonrecurring Cost for Cross-Connect at the MDF
 - ◆ Service Order Costs
 - ◆ Coordination Costs for Minimal Service Disruption
 - ♦ Affected by Churn

FCC Requires the Consideration of Impairment Cost

TRO ¶520

"... must consider <u>all factors affecting the costs</u> faced by a competitor providing local exchange service to the mass market."

- Collocations
- Transport
- Hot cuts and other services
- Equipment necessary to access the [mass market customer's] loop
- Considering an entrant's likely market share
- Considering the scale economies inherent to serving a wire center
- Considering the line density of the wire center
- Considering the impact of churn on the cost of customer acquisitions
- Considering maintenance, operations, and administrative activities
- Considering the competitors' capital costs

FCC Requires the Consideration of Impairment Cost

TRO ¶520

"State commissions should pay particular attention to the impact of migration and backhaul costs on competitors' ability to serve the market."

Bottom Line:

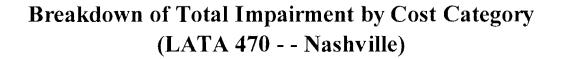
UNE-L Costs Too Much and Does Too Little for the Mass Market

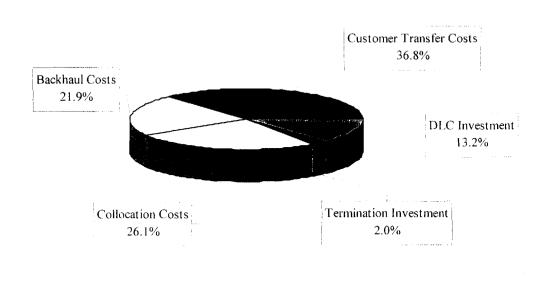
How Much Impairment Is There?

Impairment Ranges from \$15.71 to \$17.98 per line per month in Tennessee.

LATA	Monthly Impairment	
472 (Chattanooga)	\$16.05	
474 (Knoxville)	\$17.35	
468 (Memphis)	\$15.71	
470 (Nashville)	\$17.98	

Where Is The Impairment?



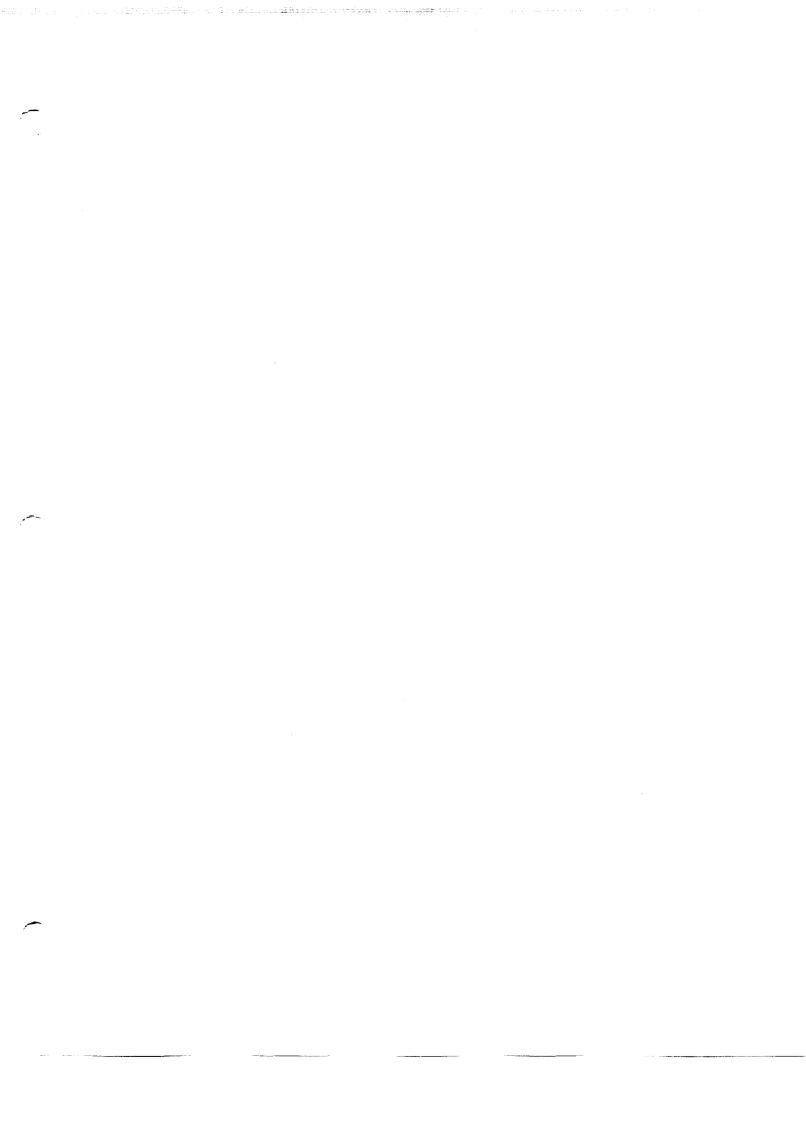


TENNESSEE

HIGH CAPACITY LOOP AND DEDICATED TRANSPORT

CompSouth March 30th, 2004





LOOP AND TRANSPORT IMPAIRMENT ROAD MAP

- Overview of FCC Impairment Findings and Actual Competitive Deployment Triggers
- CompSouth's Fact-Based Trigger Analysis
- BellSouth's Assumption-Based Trigger Analysis
- Next Steps

FCC's Impairment Analysis

- National Finding of Impairment
 - FCC found that <u>CLECs are impaired</u> nationally at the standalone DS1, DS3, and dark fiber levels. CLECs rely upon these UNEs to serve locations and routes for which they are unable to economically deploy their own facilities.
 - ♦ CLECs face significant fixed and sunk costs in constructing loop and transport facilities.
 - ♦ CLECs also face additional obstacles due to access to rights-of-way, building access, and other construction related delays.
 - Revenues associated with standalone DS1, DS3, and dark fiber loops are insufficient to recover those costs. CLECs generally need an OC(n) level of demand for a location or route before it becomes economic to build.
 - Limited wholesale alternatives for these capacities.

FCC Findings for DS1 Services

- "Small to medium-sized business customers generally demand services at the DS1, and to a lesser extent DS3 capacities."
 - ◆ (TRO Paragraph 302)
- There is "little evidence of competitive LEC's ability to self-deploy single DS1 capacity loops and scant evidence of wholesale alternatives for serving customers at the DS1 level."
 - ◆ (TRO Paragraph 325)
- "Small and medium enterprise customers served by DS1 loops provide much lower revenue opportunities than large enterprise market customers and, generally, resist long-term contract obligations."
 - ◆ (TRO Paragraph 325)
- "Taken together, these factors make it economically infeasible for competitive LECs to deploy DS1 loops, which require the same significant sunk and fixed construction costs as higher capacity loops.
 - ◆ (TRO Paragraph 325)
 - FCC excluded DS1 loops and transport from the self-provisioning trigger on this basis.

Triggers

- Practical means of determining <u>specific locations and routes</u> where impairment has been overcome for standalone DS3, DS1, and dark fiber loops and transport. (Exceptions analysis)
- Relies upon evidence of <u>actual</u> competitive deployment of facilities and services (not potential capabilities). "Real Alternatives."
- Self-provisioning Trigger
 - Relies upon evidence that competitive providers are <u>currently serving</u> retail customers at the specific location or route, and at the relevant capacity levels.
- Wholesale Trigger
 - Relies upon evidence that competitive providers are <u>currently offering</u> service to other carriers at the specific location or route, and at the relevant capacity levels.

Loops - Self-Provisioning Trigger

- Self Provisioning Trigger identifies locations where there may be no impairment: "where a specific customer location is identified as being *currently* served by two or more unaffiliated competitive LECs with their own loop transmission facilities at the relevant loop capacity level."
 - (TRO paragraph 329) (emphasis added)
- "If two or more competitive LECs have been able to economically self-deploy at a particular location at the loop capacity level being considered by the state, based on information contained in the record, we determine that the barriers to self-deployment at that customer location for that loop capacity level are likely to be able to be similarly overcome by other competitive entrants."
 - (TRO footnote 978) (emphasis added)

Loops – Wholesale Trigger

- Wholesale Trigger to identifies locations where there may be no impairment "where two or more unaffiliated competitive providers <u>have deployed</u> <u>transmission facilities to the location</u> and <u>are offering</u> alternative loop facilities to competitive LECs on a wholesale basis <u>at the same capacity level</u>."
 - ◆ (TRO paragraph 329) (emphasis added)
- "[W]here the relevant state commission determines that two or more unaffiliated alternative *providers...have access to the entire multiunit customer premises*, and offer the specific type of high-capacity loop over their own facilities on a *widely available wholesale basis* to other carriers desiring to serve customers *at that location*, then incumbent LEC loops *at the same loop capacity level* serving that particular building will no longer be unbundled."
 - (TRO paragraph 337) (emphasis added)

Transport – Self-Provisioning Triggers

- The first trigger is designed to identify routes along which the ability to self-provide transport facilities is evident based on the existence of several competitive transport facilities. Specifically, where three or more competing carriers...each have deployed non-incumbent LEC transport facilities along a specific route...we find that to be sufficient evidence that competing carriers are capable of self-deploying."
 - (TRO paragraph 400)

Dedicated Transport – Wholesale Trigger

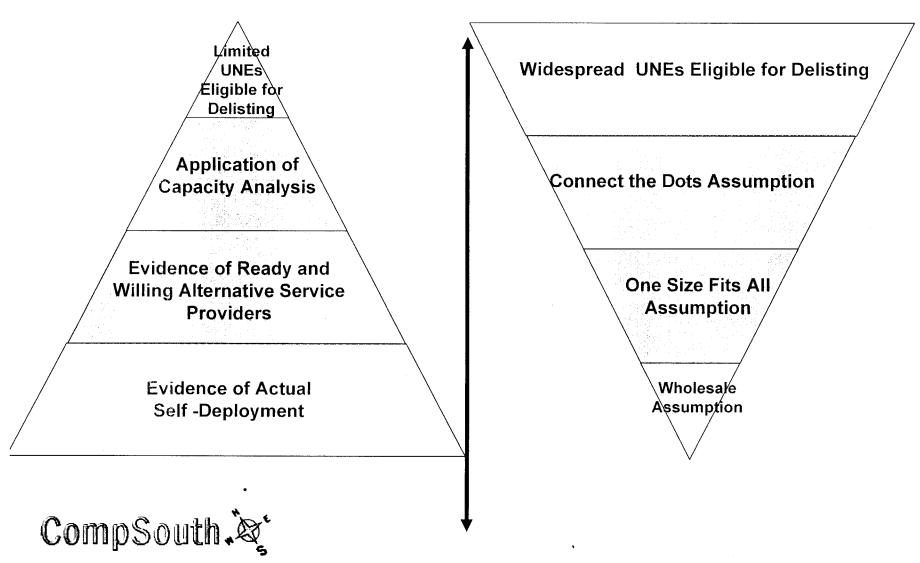
- "[W]e find that competing carriers are not impaired where competing carriers have available two or more alternative transport providers... immediately capable and willing to provide transport at a specific capacity along a given route between incumbent LEC switches or wire centers."
 - (TRO paragraph 400) (emphasis added)
- "the competitive transport providers must be operationally ready and willing to provide *the particular capacity transport* on a wholesale basis *along the specific route*."
 - (TRO paragraph 414) (emphasis added)
- "[F]or purposes of this test, the competitive transport provider must make the specific capacity transport services widely available. These provisions avoid counting alternative transport facilities owned by competing carriers not willing to offer capacity on their network on a wholesale basis."
 - (TRO paragraph 414)

Tennessee "Fact-Based" Trigger Analysis

- TRO Triggers Require Actual Competitive Deployment to find non-impairment. "Real Alternatives."
- "Fact Based" Analysis identifies buildings and routes that may potentially meet the triggers based upon CLEC responses to relevant discovery requests
 - ◆ Only uses information verified by the CLEC alleged to have deployed facilities
 - ◆ Requires capacity-specific information
 - ♦ "Bottoms up" analysis

Impairment Actual Deployment

Non-Impairment Assumed Deployment



CLEC Data Responses Used in Fact-Based Trigger Analysis

■ Xspedius Communications

■ ITC^DeltaCom

■ Time Warner

■ MCI

■ KMC Telecom

■ AT&T

■ XO

■ EPB

■ Memphis Networx

Results of "Fact-based" Trigger Analyses

- Self Provisioning Trigger Loops
 - 4 Buildings may meet the DS3 trigger
 - 0 Buildings may meet the dark fiber trigger
- Wholesale Trigger Loops
 - ◆ 2 Buildings may meet the DS3 trigger
 - ◆ 1 Building may meet the DS1 trigger
 - 0 Buildings may meet the dark fiber trigger

Results of Fact-based Trigger Analysis

- Transport Triggers
 - ◆ 28 Routes potentially have 3 or more CLECs that have deployed their own transport facilities
 - Unable to determine capacity levels in use
 - Unable to verify some transport routes
 - ◆ Wholesale availability not verified

BellSouth's "Assumption-Based" Trigger Analysis

- BellSouth used its own data, rather than CLEC data, which resulted in an unreasonably high number of routes and locations that it claims meet the triggers
- There are three primary areas of interpretation which lead BellSouth to its conclusions, all of which are based upon unverified assumptions about CLEC networks and services
 - ◆ Definition of a Transport Route ("Connect the dots" assumption)
 - ◆ Use of Specific Capacity Levels in performing Triggers ("One Size Fits All" assumption)
 - ◆ Identification of Wholesale Providers (Wholesale assumption)

BellSouth Analysis

Transport Routes Proposed by BellSouth

■ BellSouth's current proposal has significantly more transport routes meeting the triggers for Tennessee than SBC proposed for Michigan and Ohio:

State	Self-Provisioned	Wholesale
Florida	449	449
Texas	132	280
Illinois	127	285
Georgia	154	154
Tennessee	81	81
Michigan	27	59
Ohio	19	28

Next Steps

- FCC Triggers Require Evidence of Actual Competitive Deployment
 - Real Alternatives needed to find non-impairment
- TRA cannot make a finding that CLECs are not impaired
 - BellSouth assumption-based analysis is inconsistent with an actual deployment test
 - ◆ Fact-based analysis shows potential locations and routes, but more data is needed
- TRA should obtain validated information from each trigger candidate before proceeding further